NOVEMBER/DECEMBER 2025

FCA21/CCA21/CCS21 — C++ & DATA STRUCTURES

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

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1. What is a variable?
2. Write a For Loop with syntax.
3. What is meant by string?
4. Define Polymorphism.
5. What is an array?
6. What do you mean by circular queue?
7. Define ordered list.
8. Write the node structure for doubly linked list?
9. What is directed graph?
10. Define BFS.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the looping structure in C++.

Or

(b) Differentiate between constructors and destructors.

12. (a) Give a brief account on virtual functions in C++.

Or

(b) Write a note on Hybrid Inheritance.

13. (a) Explain try and catch method in Exception handing.

Or

(b) Explain the various types string functions used in C++.

14. (a) Explain the algorithm to insert a node in a doubly linked list.

Or

(b) Explain directed graph, undirected graph and sub graph.

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15. (a) Describe Primitive and Composite Data types.

Or

(b) Discuss types of Hashing.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the different types of Constructors in C++ with an example.

17. Discuss various Classes for File Stream operations.

18. What is a Stack? Explain any two operations on stack with required algorithm.

19. Explain the procedure to add Two polynomials using Linked List.

20. Explain any two sorting algorithms with suitable example.

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